

WHAT IS CLAIMED IS:

1. A temperature compensating circuit for compensating an operation of an electronic circuit having a temperature characteristic, comprising:

5 temperature-detecting means for detecting an ambient temperature of the electronic circuit; and temperature compensation control means comprising:

10 correction data storage means for storing correction data generated from the detection characteristic of the temperature-detecting means and the temperature characteristic of the electronic circuit so as to correct a detection error contained in the detection characteristic and the temperature characteristic; and

15 correction processing means for correcting the operation of the electronic circuit on the basis of the ambient temperature detected by the temperature-detecting means and the composite correction data stored in the correction data storage means.

20 2. A temperature compensating circuit for compensating an operation of an electronic circuit having a temperature characteristic, comprising:

25 temperature detecting means for detecting an ambient temperature of the electronic circuit; and temperature compensation control means; wherein said temperature compensation control

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means includes first storage means for storing first correction data generated to correct a detection error contained in the temperature characteristic of the temperature detecting means, second storage means for storing second correction data corresponding to the first stored correction data generated from the temperature characteristic of the electronic circuit so as to correct the temperature characteristic of the electronic circuit, and correction processing means for correcting the operation of the electronic circuit based on the ambient temperature detected by said temperature detecting means, the first correction data stored in said first storage means and the second correction data stored in said second storage means.

3. A temperature compensating circuit for compensating an operation of an electronic circuit having a temperature characteristic, comprising:

temperature detecting means having a detection characteristic and for detecting an ambient temperature of the electronic circuit; and

temperature compensating control means comprising:

first storage means for storing a corrected temperature corresponding to the detected ambient temperature, generated to compensate detection errors, each being a difference between a value actually detected by the temperature-detecting means and a value expected from the detection

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characteristic of the temperature detecting means;

second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

5 correction processing means for selectively reading, from the first storage means, a corrected temperature corresponding to the ambient temperature detected by the temperature detecting means, and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

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15 4. A temperature compensating circuit for compensating an operation of an electronic circuit having a temperature characteristic, comprising:

temperature detecting means having a detection characteristic and designed to detect an ambient temperature of the electronic circuit; and

20 temperature compensation control means comprising:

first storage means for storing corrected temperatures each corresponding to the detected ambient temperature, on the basis of a difference between one representative value actually detected by the temperature-detecting means and a value corresponding to the representative value and expected from the detection characteristic of the

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temperature-detecting means;

second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

5 correction processing means for selectively reading, from the first storage means, a corrected temperature corresponding to the ambient temperature detected by the temperature detecting means, and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

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5. A temperature compensating circuit for compensating an operation of an electronic circuit having a temperature characteristic, comprising:

temperature detecting means having a detection characteristic and designed to detect an ambient temperature of the electronic circuit; and

20 temperature compensation control means comprising:

first storage means for storing difference data representing a difference between one representative value actually detected by the temperature-detecting means and a value corresponding to the representative value and expected from the detection characteristic of the temperature detecting means;

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second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

5 correction processing means for obtaining a corrected temperature on the basis of the detected ambient temperature and the difference data stored in the first storage means, said corrected temperature corresponding to the ambient temperature detected by the temperature detecting means, and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

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15 6. A temperature compensating circuit for compensating an operation of an electronic circuit having a temperature characteristic, comprising:

temperature detecting means having a detection characteristic and designed to detect an ambient
20 temperature of the electronic circuit; and

temperature compensation control means comprising:

25 first storage means for storing temperatures differences obtained by dividing a range of temperatures to be detected, into a plurality of temperature sub-ranges, each difference between a representative value actually detected by the temperature-detecting means in one temperature

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first storage means for storing difference

data items obtained by dividing a range of temperatures to be detected, into a plurality of temperature sub-ranges and by obtaining differences,

each between a representative value actually
detected by the temperature-detecting means and a
value corresponding to the representative value
and expected from the detection characteristic of
the temperature-detecting means;

second storing means for storing an operation
data of the electronic circuit corresponding to a
corrected temperature; and

correction processing means for obtaining a
corrected temperature on the basis of the ambient
temperature detected by the temperature detecting
means and the difference data item stored in the
first storage means and corresponding to the
temperature sub-range in which the ambient
temperature detected falls, and for correcting the
operation of electronic circuit on the basis of
the corrected temperature and the stored operation
data of the electronic circuit corresponding to
the corrected temperature.

8. The temperature compensating circuit according
to claim 2, wherein the first storage means stores
corrected temperatures obtained by correcting detection
errors contained in the temperature detected by the
temperature detecting means, the second storage means
stores operation-correcting data items corresponding to
the stored corrected temperature, and the correction
processing means supplies the detected ambient

temperature value detected by the temperature detecting means, as an address, to the first storage means, thereby to read a corresponding corrected temperature, supplies the corresponding corrected temperature, as an address, to the second storage means, thereby to read a corresponding operation-correcting data, and corrects the operation of the electronic circuit in accordance with the corresponding operation-correcting data.

9. The temperature compensating circuit according to claim 7, wherein said electronic circuit is an oscillator circuit for generating a reference oscillation frequency.

10. An electronic apparatus comprising:

an electronic circuit having a temperature characteristic and designed to perform an operation;

a temperature-detecting circuit for detecting an ambient temperature of the electronic circuit; and

a temperature compensation circuit comprising:

correction data storage means for storing

correction data generated from the detection

characteristic of the temperature-detecting

circuit and the temperature characteristic of the

electronic circuit so as to correct a detection

error contained in the detection characteristic

and the temperature-detecting circuit; and

correction processing means for correcting

the operation of the electronic circuit on the

basis of the ambient temperature detected by the temperature-detecting circuit and the composite correction data stored in the correction data storage means.

5 11. The electronic apparatus according to claim 10,
wherein the electronic apparatus includes a radio unit
having an oscillator circuit, and a control circuit for
controlling the operation of said radio unit, said
temperature detecting circuit is provided in said radio
unit, said temperature compensating circuit is provided
10 in said control circuit to temperature-compensate the
operation of said oscillator circuit based on the
ambient temperature detected by said temperature
detecting circuit and the composite correction data
15 stored in an internal memory of said control circuit.

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12. An electronic apparatus comprising:
an electronic circuit having a temperature
characteristic and for detecting an operation;
a temperature-detecting circuit having a detection
20 characteristic and for detecting an ambient temperature
of the electronic circuit; and
a temperature compensation circuit comprising:
first storage means for storing corrected
temperatures corresponding to the detected ambient
25 temperature, generated to correct detection errors,
each being a difference between a value actually
detected by the temperature-detecting circuit and

a value expected from the detection characteristic of the temperature detecting means;

second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

correction processing means for selectively reading, from the first storage means, a corrected temperature corresponding to the ambient temperature detected by the temperature detecting circuit, and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

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13. An electronic apparatus comprising:

an electronic circuit having a temperature characteristic and designed to perform an operation;

a temperature-detecting circuit having a detection characteristic and designed to detect an ambient

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temperature of the electronic circuit; and

a temperature compensation circuit comprising:

first storage means for storing corrected temperatures each corresponding to the detected ambient temperature, generated on the basis of a difference between one representative value actually detected by the temperature-detecting circuit and a value corresponding to the

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representative value expected from the detection characteristic of the temperature-detecting circuit;

second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

correction processing means for selectively reading, from the first storage means, a corrected temperature corresponding to the ambient temperature detected by the temperature detecting circuit, and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

14. An electronic apparatus comprising:

an electronic circuit having a temperature characteristic and designed to perform an operation;

a temperature-detecting circuit having a detection characteristic and designed to detect an ambient temperature of the electronic circuit; and

a temperature compensation circuit comprising:

first storage means for storing difference data representing a difference between one representative value actually detected by the temperature-detecting circuit and a value corresponding to the representative value and

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expected from the detection characteristic of the temperature detecting circuit;

second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

correction processing means for obtaining a corrected temperature on the basis of the ambient temperature detected by the temperature detecting circuit and the difference data stored in the first storage means, said corrected temperature corresponding to the ambient temperature detected by the temperature detecting circuit, and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

15. An electronic apparatus comprising:

an electronic circuit having a temperature characteristic and designed to perform an operation;

a temperature-detecting circuit having a detection characteristic and designed to detect an ambient temperature of the electronic circuit; and

a temperature compensation circuit comprising:

first storage means for storing temperatures differences obtained by dividing a range of temperatures to be detected, into a plurality of temperature sub-ranges, each difference between a

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representative value actually detected by the temperature-detecting circuit in one temperature sub-range and a value corresponding to the representative value and expected from the detection characteristic of the temperature-detecting circuit;

second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

correction processing means for generating, a corrected temperature corresponding to the detected ambient temperature detected on the basis of the stored temperature difference corresponding to the detected ambient temperature and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

16. An electronic apparatus comprising:

an electronic circuit having a temperature characteristic and designed to perform an operation;

a temperature-detecting circuit having a detection characteristic and designed to detect an ambient temperature of the electronic circuit; and

a temperature compensation circuit comprising:

first storage means for storing difference data items obtained by dividing a range of

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temperatures to be detected, into a plurality of temperature sub-ranges and by obtaining differences, each between a representative value actually detected by the temperature-detecting circuit and a value corresponding to the representative value and expected from the detection characteristic of the temperature-detecting circuit;

second storing means for storing an operation data of the electronic circuit corresponding to a corrected temperature; and

correction processing means for obtaining a corrected temperature corresponding to the ambient temperature detected by the temperature detecting circuit and the difference data item stored in the first storage means and corresponding to the temperature sub-range in which the ambient temperature detected falls, and for correcting the operation of electronic circuit on the basis of the corrected temperature and the stored operation data of the electronic circuit corresponding to the corrected temperature.

17. A radio unit comprising:

a radio circuit for down-converting a received radio signal to an intermediate-frequency signal or a base-band signal and up-converting an intermediate-frequency signal or base-band signal to be transmitted; an oscillator circuit having a temperature

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characteristic and designed to generate a local oscillation signal for use in down-converting and up-converting signals in the radio circuit;

5 a temperature-detecting circuit for detecting an ambient temperature of the oscillator circuit; and

a temperature-compensating circuit comprising:

10 correction data storage means for storing correction data generated from the detection characteristic of the temperature-detecting circuit and the temperature characteristic of the oscillator circuit so as to correct a detection error contained in the detection characteristic and the temperature characteristic; and

15 correction processing means for correcting the operation of the oscillator circuit on the basis of the ambient temperature detected by the temperature-detecting circuit and the composite correction data stored in the correction data storage means.

20 18. A radio unit comprising:

a radio circuit for down-converting a received radio signal to an intermediate-frequency signal or a base-band signal and up-converting an intermediate-frequency signal or base-band signal to be transmit;

25 an oscillator circuit having a temperature characteristic and designed to generate a local oscillation signal for use in down-converting and

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up-converting signals in the radio circuit;

a temperature-detecting circuit for detecting an ambient temperature of the oscillator circuit; and

a temperature-compensating circuit comprising:

5 first storage means for storing corrected temperature corresponding to the detected ambient temperature, generated to compensate detection errors, each being a difference between a value actually detected by the temperature-detecting means and a value expected from the detection characteristic of the temperature detecting circuit;

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second storing means for storing an operation data of the oscillator circuit corresponding to a corrected temperature; and

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correction processing means for selectively reading, from the first storage means, a corrected temperature corresponding to the ambient temperature detected by the temperature detecting circuit, and for correcting the operation of oscillator circuit on the basis of the corrected temperature and the stored operation data of the oscillator circuit corresponding to the corrected temperature.

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19. A radio unit comprising:

a radio circuit for down-converting a received radio signal to an intermediate-frequency signal or a

base-band signal and up-converting an intermediate-frequency signal or base-band signal to be transmit;

an oscillator circuit having a temperature characteristic and designed to generate a local
5 oscillation signal for use in down-converting and up-converting signals in the radio circuit;

a temperature-detecting circuit for detecting an ambient temperature of the oscillator circuit; and

a temperature-compensating circuit comprising:

10 first storage means for storing corrected temperatures each corresponding to the detected ambient temperature, generated on the basis of a difference between one representative value actually detected by the temperature-detecting
15 circuit and a value corresponding to the representative value expected from the detection characteristic of the temperature-detecting circuit;

20 second storing means for storing an operation data of the oscillator circuit corresponding to a corrected temperature; and

25 correction processing means for selectively reading, from the first storage means, a corrected temperature corresponding to the ambient temperature detected by the temperature detecting circuit, and for correcting the operation of oscillator circuit on the basis of the corrected

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5 a radio circuit for down-converting a received
radio signal to an intermediate-frequency signal or a
base-band signal and up-converting an intermediate-
frequency signal or base-band signal to be transmit;

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first storage means for storing difference data representing a difference between one representative value actually detected by the temperature-detecting circuit and a value corresponding to the representative value and expected from the detection characteristic of the temperature detecting circuit;

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correction processing means for obtaining a corrected temperature on the basis of the detected

ambient temperature and the difference data stored
in the first storage means, said corrected
temperature corresponding to the ambient
temperature detected by the temperature detecting
circuit, and for correcting the operation of
oscillator circuit on the basis of the corrected
temperature and the stored operation data of the
oscillator circuit corresponding to the corrected
temperature.

21. A radio unit comprising:

a radio circuit for down-converting a received
radio signal to an intermediate-frequency signal or a
base-band signal and up-converting an intermediate-
frequency signal or base-band signal to be transmit;

an oscillator circuit having a temperature
characteristic and designed to generate a local
oscillation signal for use in down-converting and up-
converting signals in the radio circuit;

a temperature-detecting circuit for detecting an
ambient temperature of the oscillator circuit; and

a temperature-compensating circuit comprising:

first storage means for storing temperatures
differences obtained by dividing a range of
temperatures to be detected, into a plurality of
temperature sub-ranges, each difference between a
representative value actually detected by the
temperature-detecting circuit in one temperature

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sub-range and a value corresponding to the representative value and expected from the detection characteristic of the temperature-detecting circuit;

5 second storing means for storing an operation data of the oscillator circuit corresponding to a corrected temperature; and

10 correction processing means for generating, a corrected temperature corresponding to the detected ambient temperature detected on the basis of the stored temperature difference corresponding to the detected ambient temperature, and for correcting the operation of oscillator circuit on the basis of the corrected temperature and the
15 stored operation data of the oscillator circuit corresponding to the corrected temperature.

22. A radio unit comprising:

20 a radio circuit for down-converting a received radio signal to an intermediate-frequency signal or a base-band signal and up-converting an intermediate-frequency signal or base-band signal to be transmit;

25 an oscillator circuit having a temperature characteristic and designed to generate a local oscillation signal for use in down-converting and up-converting signals in the radio circuit;

 a temperature-detecting circuit for detecting an ambient temperature of the oscillator circuit; and

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a temperature-compensating circuit comprising:

first storage means for storing difference data items obtained by dividing a range of temperatures to be detected, into a plurality of temperature sub-ranges and by obtaining differences, each between a representative value actually detected by the temperature-detecting circuit and a value corresponding to the representative value and expected from the detection characteristic of the temperature-detecting circuit;

second storing means for storing an operation data of the oscillator circuit corresponding to a corrected temperature; and

correction processing means for obtaining a corrected temperature on the basis of the ambient temperature detected by the temperature detecting circuit and the difference data item stored in the first storage means and corresponding to the temperature sub-range in which the ambient temperature detected falls, and for correcting the operation of oscillator circuit on the basis of the corrected temperature and the stored operation data of the oscillator circuit corresponding to the corrected temperature.

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